01 OF 01

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DIRECTORATE OF INTELLIGENCE

Intelligence Memorandum

Recent Soviet-Free World Gas Agreements In Perspective

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
January 1970

INTELLIGENCE MEMORANDUM

Recent Soviet - Free World Gas Agreements In Perspective

Introduction

The USSR has recently concluded agreements to provide West Germany and Italy with natural gas in return for large-diameter pipe. These contracts followed close on the heels of negotiations that resulted in French agreement in principle to import natural gas via pipeline from the USSR.

Previous negotiations with Italy, France, and Japan broke down at the end of 1967 as a result of inability to reach agreement on prices and terms of financing. In June 1968, Austria agreed to import 1.5 billion cubic meters (cu m) of gas per year from the USSR to supplement production from its own dwindling reserves. Interest of Free World nations in further negotiations with the USSR, however, evaporated in the political climate that followed the invasion of Czechoslovakia in August 1968.

Now Soviet efforts to export natural gas to the Free World are once more under way, and this time they appear to be meeting with some success. This memorandum reviews the background of recent agreements concerning the sale of Soviet gas in Western Europe and examines the prospects for Soviet exports of natural gas to the Free World in the next decade. It represents conclusions as of mid-December 1969.

Note: This memorandum was produced solely by CIA. It was prepared by the Office of Economic Research.

Background of Recent Negotiations

1. In 1967, Soviet trade experts accurately foresaw the development of a "buyers' market" for natural gas in the Free World, particularly in Western Europe, and sought to secure long-term contractual agreements before competitive pricecutting became prevalent. Simultaneous negotiations were conducted with Austria, Italy, France, and Japan, which had they been successful would have resulted in Soviet exports by 1975 of 8-10 billion cu m of gas annually to the Free World. Export of this quantity of gas at the prices then under discussion would have yielded the USSR annual foreign exchange earnings of \$100-\$125 million after retirement of foreign indebtedness anticipated for the construction of export facilities. Such debt retirement could have been accomplished in about 10 years with the proceeds from the gas sales.

2. Development of the vast Groningen deposits of natural gas in the Netherlands and of major new deposits in the North Sea waters off the United Kingdom, in Algeria, and in Libya, coupled with new discoveries of natural gas offshore from Italy in the Adriatic and in southwestern France led potential West European customers to adopt a "wait and see" attitude.

3. Italian participation was regarded as essential to any French agreement because of the proposed pipeline delivery route and the need for adequate throughputs to insure profitable pipeline operation. Prospects for Soviet agreement with Italy, however, received a severe setback when, at the end of 1967, the Netherlands reduced its average export price for gas by more than 10% from \$13.15 to \$11.79 per 1,000 cu m at the Netherlands border. The situation grew even less promising from the Soviet point of view in the first half of 1968, when Western petroleum firms developing the North Sea deposits concluded long-term contracts with British industry at the lowest gas prices in Western Europe, approximately \$10.13 per 1,000 cu m. Italy adopted this price as a reference point for further negotiations with the USSR, but the USSR continued to insist on a price of \$12.35 per 1,000 cu m. Soviet - Free World negotiations generally reached an impasse as a result of inability to agree on gas prices and on the terms of credits to be extended to the USSR for the purchase of large-diameter pipe and other equipment needed for export facilities.

The Opening Wedge -- Agreement with Austria

4. Soviet discussions with Austria proved more successful, because Austrian gas reserves are in an advanced state of depletion and a supplemental source of gas was required immediately. A formal 23-year agreement was concluded by the USSR and Austria in June 1968 providing for sale to Austria of Soviet natural gas valued at a delivered price of $15.80 per 1,000 cu m. Shipments began with 300 million cu m in 1968 and are to increase to 1.5 billion cu m annually by 1971. In return, Austria over a two-year period is to supply the Soviet Union with 400,000 tons of 48-inch pipe and 120,000 tons of 40-inch pipe. This pipe, valued at $100-$115 million, will be paid for by the proceeds from the sale of gas within seven years. Thereafter, Soviet earnings from the sale of gas to Austria will be at the rate of $23.7 million per year. The Austrian pipe is to be used to construct approximately 1,500 kilometers (km) of pipeline in the USSR.

5. The Austrians, in addition to obtaining badly needed gas, undoubtedly found the sale of steel commercially attractive, even though lack of facilities forces them to send it to West Germany for fabrication into large-diameter pipe. In time they might have obtained the gas they needed at a lower price from the Netherlands but they were not able to wait on negotiations and on construction of a pipeline. Delivery of the Soviet gas to Austria required construction of only a 65-km extension from the terminus of the 28-inch "Brotherhood" pipeline at Bratislava in Czechoslovakia. This pipeline, which is capable of transporting about 4.5 billion cu m per year, has thus far been underutilized, carrying only about 1 billion cu m to Czechoslovakia in 1969.

The West German Agreement

6. At the end of November the USSR entered into a 20-year agreement to supply natural gas to West German distributors in Bavaria. Deliveries will be via pipeline through Czechoslovakia, to begin with 500 million cu m in 1973 and to increase to a maximum of 3 billion cu m per year within six years. The exact price of the gas has not been announced, but unofficially has been indicated to be in the vicinity of $11.84-$12.16 per 1,000 cu m delivered

at the Czechoslovak-Bavarian border. Any price in this range is more than adequate to cover the Soviet costs of production and transport and to yield the USSR a profit of at least $2.00 per 1,000 cu m. On the other hand, German fuels experts believe that the Soviet gas will cost approximately 25% less than would Netherlands gas delivered to Bavaria, even allowing for additional domestic costs for blending the Soviet gas to make it conform in quality to local supplies, and for storage to insure constant delivery patterns (7,000 hours per year) despite seasonal fluctuations in consumption. It is their hope that the Soviet agreement may encourage the Netherlands to lower its price.

7. Although the arrangement with the USSR is economically attractive to the West Germans and the increased trade is in keeping with their current policy of encouraging better relations with the Soviet Union, the possibility of influencing the Netherlands' prices may have been the strongest motivating factor. The Germans do not really need the Soviet gas. It will constitute only a small share of the West German gas supply, about 7.5% in 1980, when the total West German requirement is expected to be in the neighborhood of 40 billion cu m. West German production of natural gas was only 5.8 billion cu m in 1968 and may run about 8.5 billion in 1969. Reserves, however, are believed adequate to support production of 25 billion cu m in 1980 if necessary. Existing contracts already call for the import of 11 billion cu m of gas from the Netherlands in 1975, when some German fuels experts believe total consumption of gas may reach 32 billion cu m. Because of the additional transport costs, the Netherlands gas at present border prices will be competitive primarily in the north German market.

8. The level of German production in 1980, and whether there will be additional imports from either the Netherlands or from the USSR, undoubtedly will depend in large part on the development of prices. One feature of the Soviet-German agreement is a provision that during the 20-year period either party can call for a revision of the gas price as the competitive situation seems to warrant.

9. In accordance with a separate although obviously related arrangement discussed concurrently with the natural gas agreement, West Germany is to provide the USSR with 2,400 km of 56-inch-diameter pipe weighing some 1.2 million tons. Reportedly the pipe is intended for use in a domestic Soviet line from the West Siberian gas fields to the central industrial region near Moscow. Pipe deliveries are to start in the middle of 1970 and to be completed within two years. If this schedule is to be maintained, given the present full order books of German pipe manufacturers, and if the steel is to be purchased prior to a price rise expected early in 1970, final agreement must be reached and the steel reserved before the end of 1969.

10. As of mid-December, however, financing of the pipe was still not settled. In July a German bank consortium offered a 12-year credit of 1.2 billion Deutsche Mark (DM) at 6.5% interest. The subsequent revaluation of the mark had the effect of increasing the value of the credit and the cost of the pipe, when calculated in rubles or dollars, by more than 9%. Retirement of principal and interest within 12 years with the earnings from gas sold to West Germany at the prices mentioned is impossible. Consequently, the USSR, during the first week in December, was seeking different terms, wishing to pay no more than 6% interest and to handle the repayment of principal and interest separately. Earnings from gas deliveries during the first 12 years would cover the principal, but not the interest. Principal and interest on approximately $330 million (1.2 billion DM converted at the current exchange rate) could be retired by Soviet earnings from gas deliveries during the first 18 years -- that is, by 1990. Should the final terms of the agreement prove any less favorable for the USSR, the 20-year gas sale will emerge as a barter of gas for pipe with little or no other return.

11. Reports of discussion at the end of the second week in December concerning a possible total German credit of 1.5 billion DM (nearly $410 million) and sale of some additional large-diameter pipe indicate that the USSR may not be seeking any return other than pipe from its export of gas to West Germany. Earnings from the 20-year sale of gas at the prices indicated above could cover only about 90% of the principal and interest on a $410 million loan for 20 years at 6%.

The Big Sale to Italy

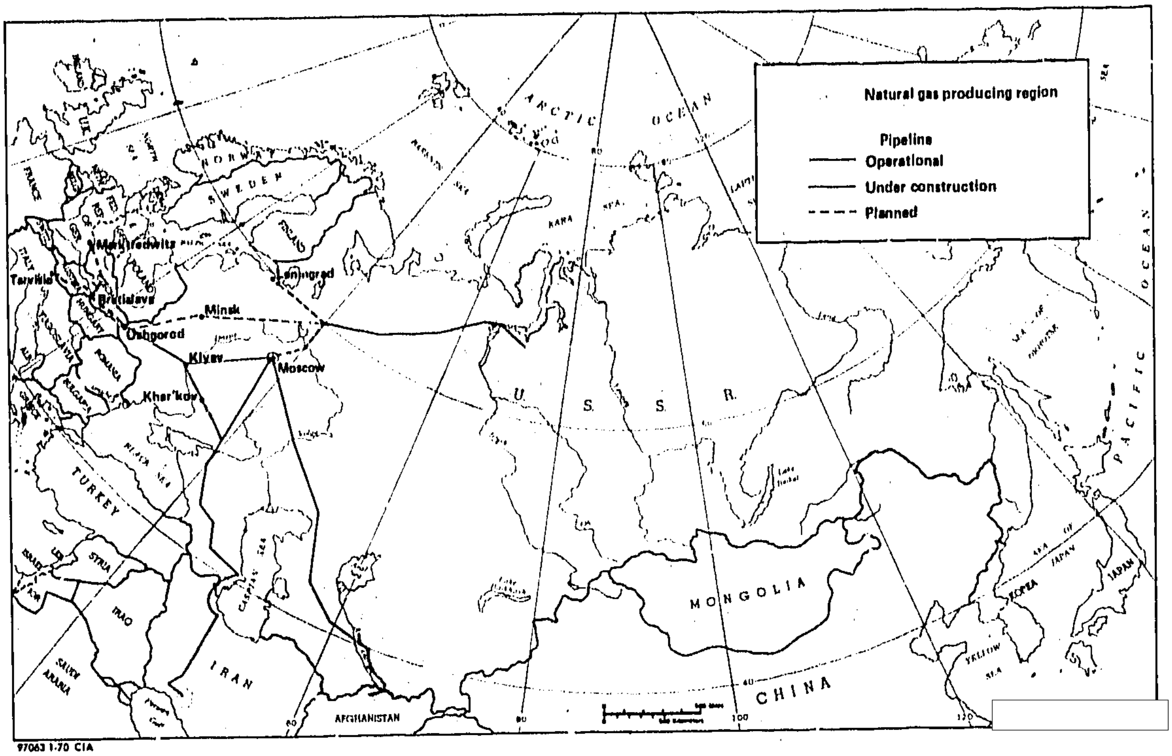
12. On 10 December 1969 the USSR and Italy's national hydrocarbon monopoly, Ente Nazionale Idrocarburi (ENI), signed a 20-year agreement that reportedly calls for delivery of Soviet gas to Italy to begin in 1973, with deliveries increasing gradually thereafter to 6 billion cu m in about three years. (This appears to be an extremely rapid buildup but is compatible with statements that more than 100 billion cu m of natural gas will be delivered during the 20 years.) During the first five years of the agreement, Italy is to export to the USSR $200 million worth of 56-inch-diameter steel pipe, compressors, valves, and telecommunications equipment to be used in developing Soviet pipeline networks.

13. Thus far, Italy is not known to have produced any pipe of this size, but deliveries of pipe and equipment to the USSR are scheduled to start in 1970. Details of the final agreement have not been officially disclosed, but preliminary information indicates that the pipe and equipment are to be financed at a rate of interest of about 6% and that the Soviet gas will be valued at approximately $11.20 per 1,000 cu m at the Italian border. This price is more than $1 per 1,000 cu m below the price previously desired by the USSR when negotiations broke off because agreement could not be reached on price and on financing arrangements. The $200 million credit could be fully amortized, at 6% interest, by earnings from the gas to be delivered to Italy during the first four years.

14. Given the lack of precise details concerning the terms of the agreement, the fact that Italian deliveries of pipe and equipment are to be carried out over five years suggests that during this period the arrangement amounts to barter of gas for pipe and equipment. Thereafter, Soviet earnings on the sale of 6 billion cu m of gas per year at $11.20 per 1,000 cu m would be at the rate of about $67.2 million annually. Italy is to pay for its imports of Soviet gas after the initial period, at least in part, by exports to the USSR still to be agreed upon within the framework of overall trade agreements. Thus the Italian contract will be a valuable long-term source of hard currency and Free World commodities for the USSR.

15. Delivery of 4-6 billion cu m of Soviet gas annually will permit the Italians to develop their own new gas resources near Ravenna and in the Adriatic somewhat more slowly than otherwise would be the case. Several years ago Italy anticipated a requirement for about 20 billion cu m of natural gas in 1975. In 1968, Italy produced about 10.4 billion cu m of gas, and data on production during the first half of 1969 indicate that production in this year will be in the range of 11-12 billion cu m. An existing contract calls for imports of liquefied natural gas (LNG) from Libya to start in 1970 and to reach a level of 3 billion cu m by 1975. With the Soviet imports, Italy only needs to develop its own new reserves at a rate sufficient to offset any decreases in production from the old and nearly depleted reserves of the Po Valley and to maintain a constant level of production. Alternatively it may elect to increase gas production and to hold down the rate of growth in imports of petroleum products.

16. The Italian contract raises the amount of Soviet gas committed to Western Europe beyond the delivery capability of the existing "Brotherhood" line to Czechoslovakia. Following conclusion of the Austrian agreement in 1968 and subsequent promises to increase gas exports to Eastern Europe, however, the USSR announced plans for construction of a new 1,040-km 40-inch-diameter pipeline from new gas fields southeast of Khar'kov in the Ukraine to the Czechoslovak border. Work has started on the line in the USSR, and it is to be completed to the border by some time late in 1970. Within Czechoslovakia, the new line will parallel the existing "Brotherhood" line from the border to Bratislava, where it will branch northwest some 450 km across Czechoslovakia to Marktredwitz in Bavaria and southwest some 370 km across Austria to Italy, presumably being completed in time for the scheduled start of deliveries to both Germany and Italy in 1973 (see the map). Austria is expected to take 0.5 billion cu m annually from the branch crossing its territory. The new line to Czechoslovakia is to have an annual throughput capacity of 10 billion cu m. Thus it alone will be capable of transporting Soviet gas now committed for delivery to Austria, West Germany, and Italy through 1977. When deliveries to West Germany reach their maximum in 1978, however, at least 0.5 billion cu m will have to be delivered via another line. Although it is possible that this amount could be made available through the existing



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"Brotherhood" line, it is more probable that growth in Soviet deliveries of gas to Eastern Europe, and possible additional sales to Western Europe, will necessitate construction of a third pipeline to Czechoslovakia to facilitate Soviet exports in 1975-80.

Current Negotiations

17. The next Free World nation to purchase Soviet gas probably will be France, which early in October 1969 concluded an agreement in principle with the USSR. As delivery was expected to take place through Germany, discussion of details was deferred pending the outcome of Soviet-German negotiations. Franco-Soviet conversations were scheduled for Paris during the third week in December. Preliminary information indicated that the contract probably will be for 20 years and that France will import up to 2.5 billion cu m annually with smaller deliveries starting some time after 1975, perhaps about 1977.

18. Thus far, nothing has been reported concerning the possible price of the gas. To be interesting to the French, the price of Soviet gas probably would have to be below that of gas from the Netherlands, which has been reported as being in the range of $12.90-$13.10 per 1,000 cu m delivered at the French border. Because the quantity of Soviet gas that France would take is relatively small, however, the price to France probably would not be as low as the price to Italy. Thus, for the time being, the price to France can only be predicted as probably being within the fairly wide range of $11.20-$13.00 per 1,000 cu m. It is expected that the USSR will purchase from French firms $180-$200 million worth of line pipe, probably 40-inch and 48-inch diameter.

19. Gaz de France, the government-controlled gas monopoly, now estimates French requirements for gas in 1980 at 20-22 billion cu m. Domestic production in 1969 was running at a rate of more than 6 billion cu m per year, and the rate is expected to increase in the future, although slowly. Existing contracts with Algeria and the Netherlands will provide an additional 10-12 billion cu m as necessary. Thus the 2.5 billion cu m from the USSR will nearly satisfy the remaining French demand. As in the case of West Germany, the rate of increase in domestic French production, and whether any additional gas is to be imported from either the Netherlands or the USSR, undoubtedly will depend on future development of prices.

20. Other agreements providing for export of Soviet natural gas to Western Europe are possible. Preliminary discussions have been held with Finland and Sweden, but Soviet prospects for concluding contracts with these countries are not good, as Finnish and Swedish requirements for gas are not large enough to justify the cost of pipeline construction. Although no discussions concerning gas have thus far been held between the USSR and Switzerland, Western oil and gas company officials have speculated that construction of a pipeline through West Germany to France may interest the Swiss in purchasing up to 1 billion cu m of gas from the USSR.

21. Current Soviet-Japanese talks concern the possible export from the USSR to Japan of 0.5 billion cu m of gas in 1973, with such exports increasing by approximately 0.5 billion cu m per year until a maximum of 2.4 billion cu m is reached

in 1977. [redacted] if 25X1
agreement is reached, the price of the gas probably will be in the vicinity of $13.00 per 1,000 cu m. This price compares quite favorably with the price of $18.36 per 1,000 cu m which Japan is paying for liquefied natural gas from Alaska and the $16.59 per 1,000 cu m it has contracted to pay for LNG from Brunei. Japan has a rapidly growing demand for natural gas and represents a natural market for the undeveloped Soviet reserves on Sakhalin. Deliveries could take place either by LNG tanker or by underwater pipeline. It is expected that Japan would provide credits for pipeline materials and equipment valued at about $100 million. Inability to agree on the terms of financing has been the principal obstacle to conclusion of a contract thus far.

Significance of Soviet Gas Exports

22. The significance of recent agreements and discussions from the standpoint of the Free World is largely in the opportunity to acquire some relatively small quantities of gas at favorable prices and at the same time to sell large-diameter pipe and pipeline equipment. The Organization for Economic Cooperation and Development (OECD) has estimated Western Europe's gas supply in 1975, including both production and imports, at 135-140 billion cu m, or a little more than 10% of the total anticipated West European energy requirement. Gas imported from the USSR will contribute no more than 6%-7% of the West European gas supply, or a little more than one-half of 1% of total energy. By 1980, gas from the USSR will satisfy an even smaller share of Western Europe's rapidly growing demand for natural gas and for energy of all types. Certainly its part will not be large enough to constitute, as some have feared, a significant strategic vulnerability.

23. The quantities of Soviet natural gas contemplated for sale to Japan could contribute a somewhat larger share of the total Japanese natural gas supply, perhaps some 20% in the mid-to-late 1970s. Soviet gas will provide Free World customers with a valuable source of convenient low-cost energy, and the arrangements discussed above will help to keep certain Free World pipe and equipment manufacturers' order books full for some time to come. The value of the pipe and equipment discussed in arrangements with Austria, West Germany, Italy, and France totals some $800-$900 million. An additional

$100 million worth from Japan would bring the total value of gas-linked Soviet purchases of Free World pipe and equipment close to $1 billion.

24. The immediate gain to the USSR from the gas export arrangements is the acquisition, over the next several years, of about 3.5 million tons of badly needed large-diameter steel pipe. This quantity of pipe may enable the USSR to lay some 8,000 to 9,000 km of pipeline. A more long-range gain for the USSR will be the opportunity to earn foreign exchange or its equivalent in Free World goods -- perhaps almost $190 million annually in the 1980s. Of this amount, approximately $36 million per year from West Germany apparently is committed to payment for pipe and equipment throughout most of the life of the agreements. Earnings from the Austrian and Italian sales alone, however, will amount to more than $90 million per year and the credits from both countries should be paid off by the end of 1978. Possible agreements with France and Japan may yield another $60 million. The credits being discussed with these countries are fairly small and, with favorable terms, probably could be retired within a few years. Thus, as yet uncommitted foreign exchange earnings in the neighborhood of $150 million per year are a distinct possibility during the 1980s.

The USSR as a Gas Exporter and the Need for Pipe

25. During 1975-80 the USSR will be a net exporter of natural gas, but exports to the Free World will be made possible primarily by offsetting imports. Production was about 171 billion cu m in 1968 and was expected to reach 185 billion in 1969. Some 1.5-2.0 billion cu m are imported from Afghanistan. All available gas is consumed in the USSR except for about 2 billion cu m exported to Eastern Europe, divided approximately equally between Poland and Czechoslovakia.

26. In 1975 the USSR will be a net importer of gas from the Free World, and its overall position as a net exporter will result from its deliveries to Eastern Europe. Plans call for production of 300-340 billion cu m of gas in 1975, at which time the USSR will be exporting approximately 20 billion cu m, including 10-12 billion cu m to Eastern Europe and, in accordance with the recently concluded agreements, some 9 billion cu m to Western Europe. Soviet gas,

primarily from deposits in the Ukraine, will be exported to all East European countries except Romania and will provide about 20% of their total gas supply.

27. By 1975 the USSR will also be importing about 14 billion cu m of natural gas, nearly 4 billion cu m from Afghanistan and 10 billion from Iran. Thus in its gas trade with the Free World it will be a net importer of about 5 billion cu m. The imported gas will be obtained at relatively low prices, \$5.60 per 1,000 cu m in the case of Afghanistan and \$6.60 per 1,000 cu m in the case of Iran. This gas will be consumed in parts of the USSR adjacent to the sources or, if it is not all required in those areas, it will be fed into the Soviet distribution network, thereby freeing more expensive Soviet gas for export.

28. By 1980 the USSR may have become a small-scale net exporter to the Free World. Plans call for production of 550-600 billion cu m of gas in that year. Exports probably will total at least 35 billion cu m, approximately 20 billion to Eastern Europe and the remainder to the Free World. The figure for the Free World is based in part on assumed exports of 2.5 billion cu m to France and 2.4 billion cu m to Japan in accordance with proposals under discussion late in 1969. It also assumes no increase in deliveries to Austria, West Germany, and Italy above the levels now scheduled. Thus, by 1980, exports of some 15 billion cu m of natural gas to the Free World would slightly exceed imports from Afghanistan and Iran, which thus far are scheduled to remain constant at the 1975 level of 14 billion cu m. For a summary of the possible trend of developments in Soviet natural gas trade with the Free World during 1970-80 see the table.

29. As indicated by the above figures, apparent Soviet consumption of gas -- the difference between production and net foreign trade -- is scheduled to increase from approximately 185 billion cu m in 1969 to about 315 billion in 1975 and 550 billion by 1980.*

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* *Based on the midpoints of production plans for 1975 and 1980.*

Estimated Development of Soviet Trade in Natural Gas with Free World Countries a/

Billion Cubic Meters

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Exports											
Under present agreements											
Austria	1+	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
West Germany				0.5	1.0	1.5	2.0	2.5	3.0	3.0	3.0
Italy				4	5	6	6	6	6	6	6
Under possible agreements											
France								1	1.5	2.0	2.5
Japan				0.5	1.0	1.5	2.0	2.4	2.4	2.4	2.4
Total exports	*1+*	*1.5*	*1.5*	*6.5*	*8.5*	*10.5*	*11.5*	*13.4*	*14.4*	*14.9*	*15.4*
Imports											
From Afghanistan	2	2.5	3.0	3.5	4	4	4	4	4	4	4
From Iran	6	7	8	9	10	10	10	10	10	10	10
Total imports	*8*	*9.5*	*11*	*12.5*	*14*	*14*	*14*	*14*	*14*	*14*	*14*

a. In addition, the USSR now exports about 2 billion cu m to the Communist countries of Eastern Europe. It is estimated that such exports will reach 10-12 billion cu m in 1975 and about 20 billion in 1980.

The annual increase in gas consumption, which in 1969 amounted to approximately 15 billion cu m, is expected to average 18-25 billion during 1970-75 and nearly 50 billion during 1976-80. To be sure, long-range production plans have been reduced before and may be again, but these figures at least serve to illustrate the rapid growth anticipated in consumption of natural gas in the USSR. Most of the gas will be consumed in the industrialized European USSR, and most of the increased production will come from new deposits in remote areas of western Siberia and Central Asia. The gas will have to be transported 2,500-3,000 km by pipeline to the centers of consumption in the western part of the USSR.

30. The situation is much the same with respect to oil, a fact that further increases the demand for pipe. The rate of increase in output from the older oil producing regions in the Caucasus and in the Urals-Volga area is slowing down, and more and more future increases will come from newly developed deposits in western Siberia and in Central Asia. This oil too must be moved by pipeline to the western part of the country. Construction of numerous Soviet oil and gas pipeline projects has been lagging for several years, and the need for large-diameter pipe has been growing rapidly. Some indication of the urgency of Soviet need for large-diameter pipe is afforded by a statement made in April 1968 by A.K. Kortunov, Minister of the Gas Industry, to the effect that Soviet demand for pipe of more than 40 inches in diameter will reach 5 million tons in 1970, compared with a demand for 2 million tons in 1967.

31. The production figures cited above indicate that the demand will grow even more rapidly in the future. It is estimated that at present the USSR probably makes no more than 1 million tons of such large-diameter pipe per year. Although existing facilities can be expanded somewhat and new capacity is under construction, the USSR will have to depend on imports of pipe to meet its needs for some years to come. Pipe and hard currency received in return for gas exports can help to satisfy some of the demands imposed by the scheduled development of the Soviet oil and gas industries.

Conclusions

32. The USSR has concluded agreements to sell gas to the Free World at prices that not only cover the cost of extraction and transport but also will yield a profit of about $2.00 per 1,000 cu m. These sales initially will enable the USSR to obtain large-diameter pipe and equipment badly needed for construction of both domestic and export oil and gas pipeline systems. Without an adequate supply of such pipe, development of the oil and gas reserves of western Siberia and Central Asia would be seriously delayed and movement of increasing quantities of fuel to the western part of the USSR for consumption or for export to Eastern and Western Europe would be very difficult.

33. Under existing agreements with Austria, West Germany, and Italy the USSR has been granted credits totaling some $600-$700 million for the purchase of large-diameter pipe and related pipeline equipment. The arrangement with West Germany closely resembles a barter of gas for pipe, but the other credits will both have been retired by 1977-78. Thereafter, shipments of gas to Austria and Italy will yield the USSR a return in Free World goods and foreign exchange at a rate of more than $90 million per year -- the equivalent of about one-fourth of current Soviet earnings from exports of oil to the Free World. Conclusion of additional agreements still under discussion with France and Japan could raise the as yet uncommitted foreign exchange earnings from gas exports to $100-$150 million per year in the 1980s.

34. Free World countries, by virtue of the agreements with the Soviet Union, have secured some relatively small quantities of natural gas at prices below those they would have had to pay for gas from other sources. They have also made fairly substantial sales of pipe and equipment that will help to keep manufacturers' order books full for several years to come, and there are prospects for additional sales of these or other commodities in the future. Moreover, the Soviet - Free World contracts may influence Western suppliers of natural gas to lower their prices.

35. The Free World market for natural gas will be highly competitive during the next decade. Decisions concerning rates of increase in domestic production or whether additional gas (or oil) should be purchased

from Free World suppliers or from the USSR will depend on relative prices. The USSR will be producing large and ever increasing quantities of natural gas and undoubtedly could make additional gas available for export, especially after 1975, if market conditions warrant.